AN ARCHAEOLOGICAL SURVEY FOR THE SOUTHEAST WATER SUPPLY CORPORATION WATER IMPROVEMENT PROJECT IN LEON COUNTY, TEXAS

Antiquities Permit 4873

By

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Brazos Valley Research Associates
Contract Report Number 199

April 2008

AN ARCHAEOLOGICAL SURVEY FOR THE SOUTHEAST WATER SUPPLY CORPORATION WATER IMPROVEMENT PROJECT IN LEON COUNTY, TEXAS

BVRA Project 08-03

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ABSTRACT

Brazos Valley Research Associates conducted an archaeological survey of three linear areas of proposed water line in eastern Leon County, Texas on April 7, 2008 under the supervision of William E. Moore. This work was sponsored by the Southeast Water Supply Corporation (WSC) of Centerville, Texas under antiquities permit 4873. Shovel tests, shovel probes, and surface inspection found no evidence of a prehistoric or historic site at either of the three areas. One area contained clay at the surface, one area cut through a clay hill, and the third area was on a natural slope. No artifacts were collected. Copies of the report are on file at the Texas Historical Commission, Archeology Division; Texas Archeological Research Laboratory, Southeast WSC, and Brazos Valley Research Associates. This project examined 0.82 total acres.

ACKNOWLEDGMENTS

I would like to thank everyone whose cooperation made the completion of this project possible. Project area maps were provided by Winn Professional Engineers and Constructors, LLC. I was greatly assisted by the Southeast Water Supply Corporation provided who provided two employees to help with the field survey. Royce Keeling, President of the Board of Directors, signed the permit application, and the project was coordinated by Raylene Peterson, Manager. Boyd Emal drove with me during the pre-survey assessment to make sure I visited the correct areas, and Norman Hopkins assisted with the shovel testing. Jean Hughes, Assistant Curator of Records at the Texas Archeological Research Laboratory in Austin, Texas, conducted the literature search. The figures that appear in this report were drafted by Lilli Lyddon of LL Technical Services in North Zulch, Texas.

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INTRODUCTION

The Southeast Water Supply Corporation plans to improve the domestic water supply to rural Leon County, Texas by installing 7.75 miles of water line, one new well modifying an existing well, and building two pump stations near Centerville and in rural areas of the county (Figure 1). The water line will be placed on private property with the majority along county roads and a shorter segment that will traverse cross-country. The diameter of the water line varies from four inches to eight inches and will be placed in a trench with three feet of cover within a fifteen-foot easement. The two wells will occupy a footprint of 100 feet by 200 feet, and the pump stations will be constructed on pads 50 feet by 50 feet in size. The only subsurface disturbance at these locations will be some grading to create a level surface.

The construction for this project is being funded through a federal grant provided by the United States Department of Agriculture, Rural Development Office. Therefore, this investigation comes under the purview of Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). Brazos Valley Research Associates was issued permit 4873 for this project, and the survey was conducted on April 7, 2008.

Leon County is an area that contains significant archaeological sites, both prehistoric and historic. This area has been the subject of several major cultural resources investigations such as the ongoing Jewett Mine project to the north and an earlier investigation of water lines in the county by Brazos Valley Research Associates (Moore 1994, 2002a, 2002b) and Archeological and Environmental Consultants (Perttula and Nelson 1997). In one of the areas not investigated during the field survey a log crib was observed outside the project area easement. This structure is depicted on the cover of this report. The entire project area is depicted on 7.5' USGS topographic quadrangle Centerville (3195-232).

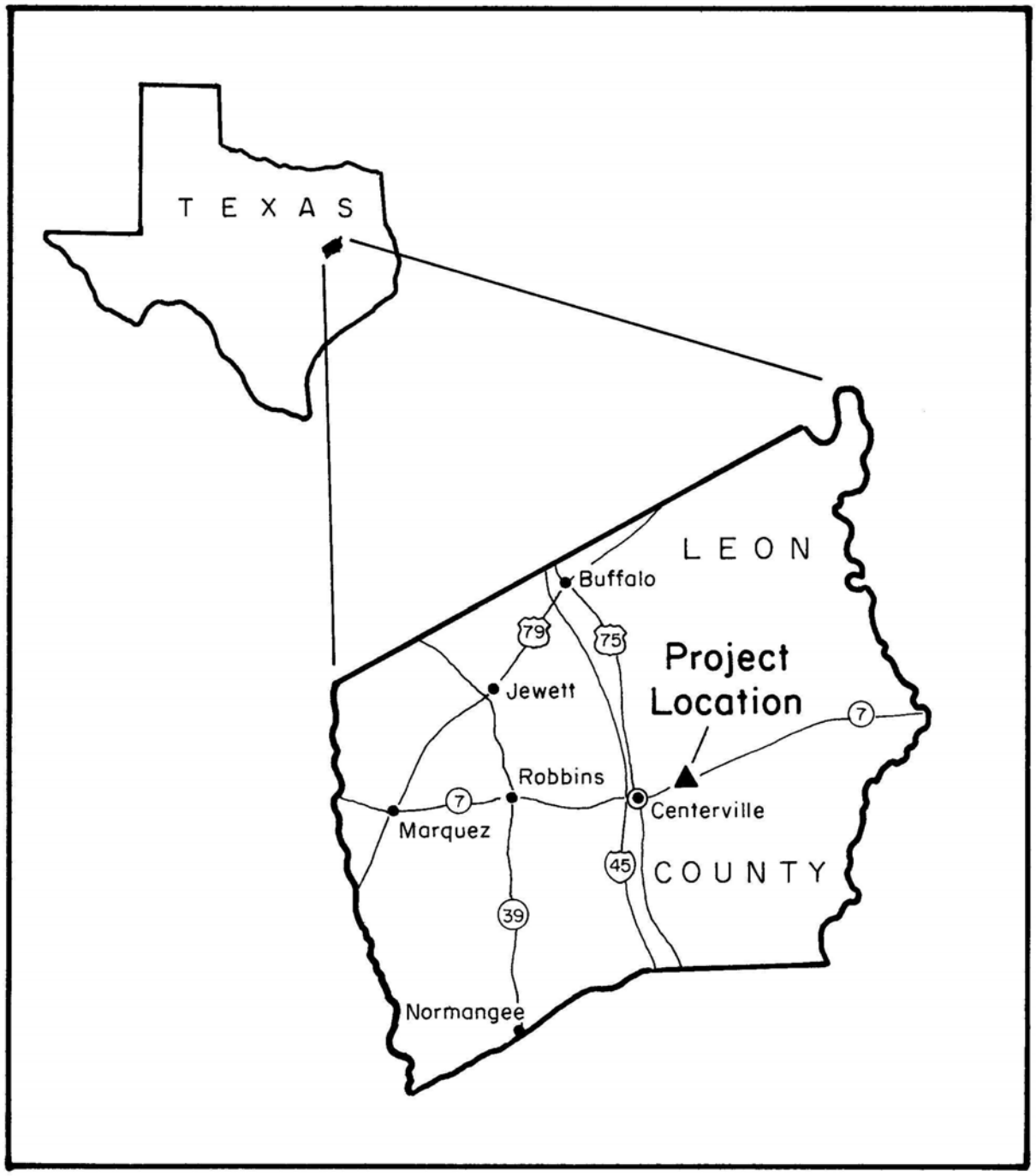

Figure 1. General Location of Project Area

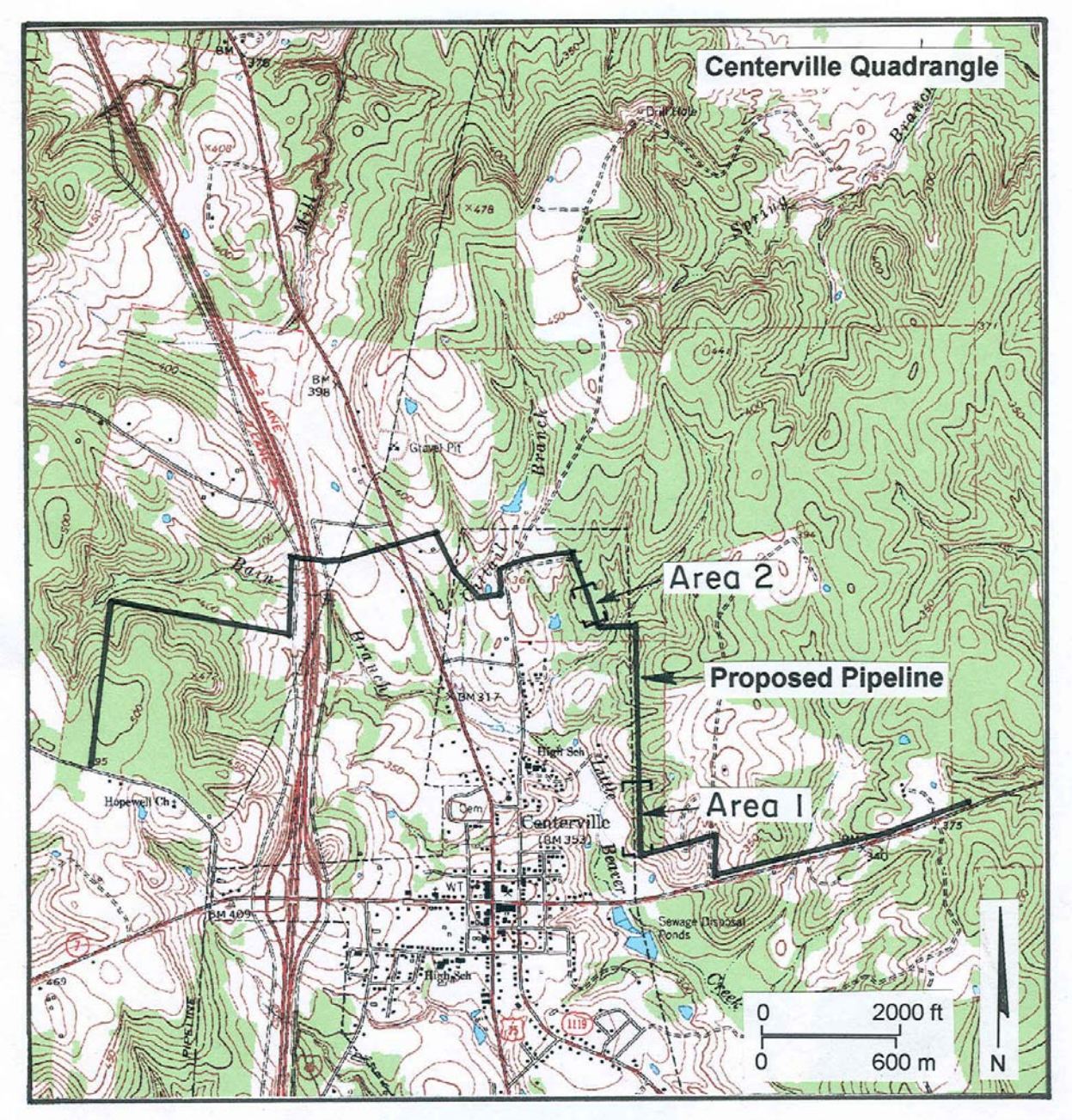

Figure 2. Project Area (Map1)

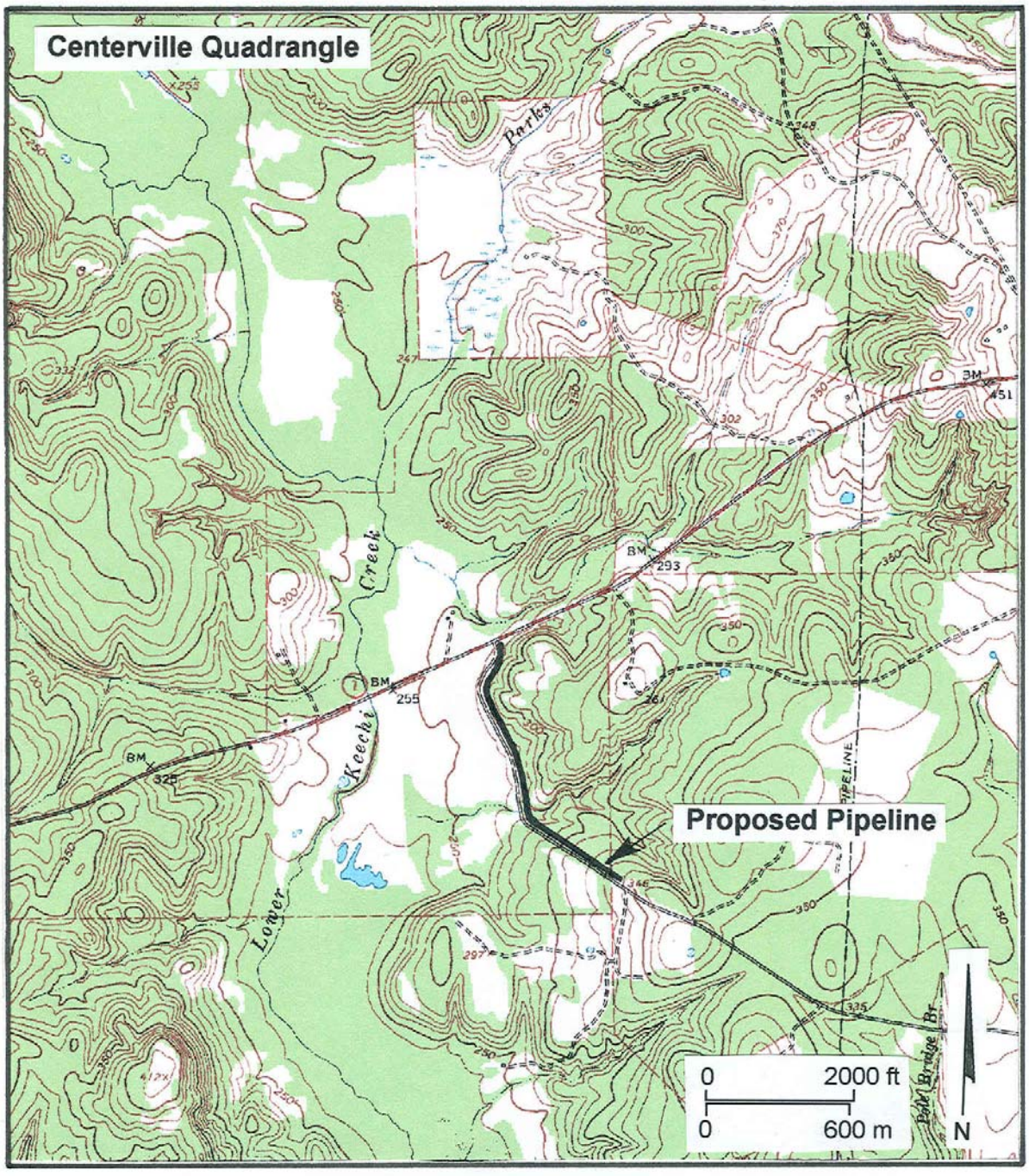

Figure 3. Project Area (Map 2)

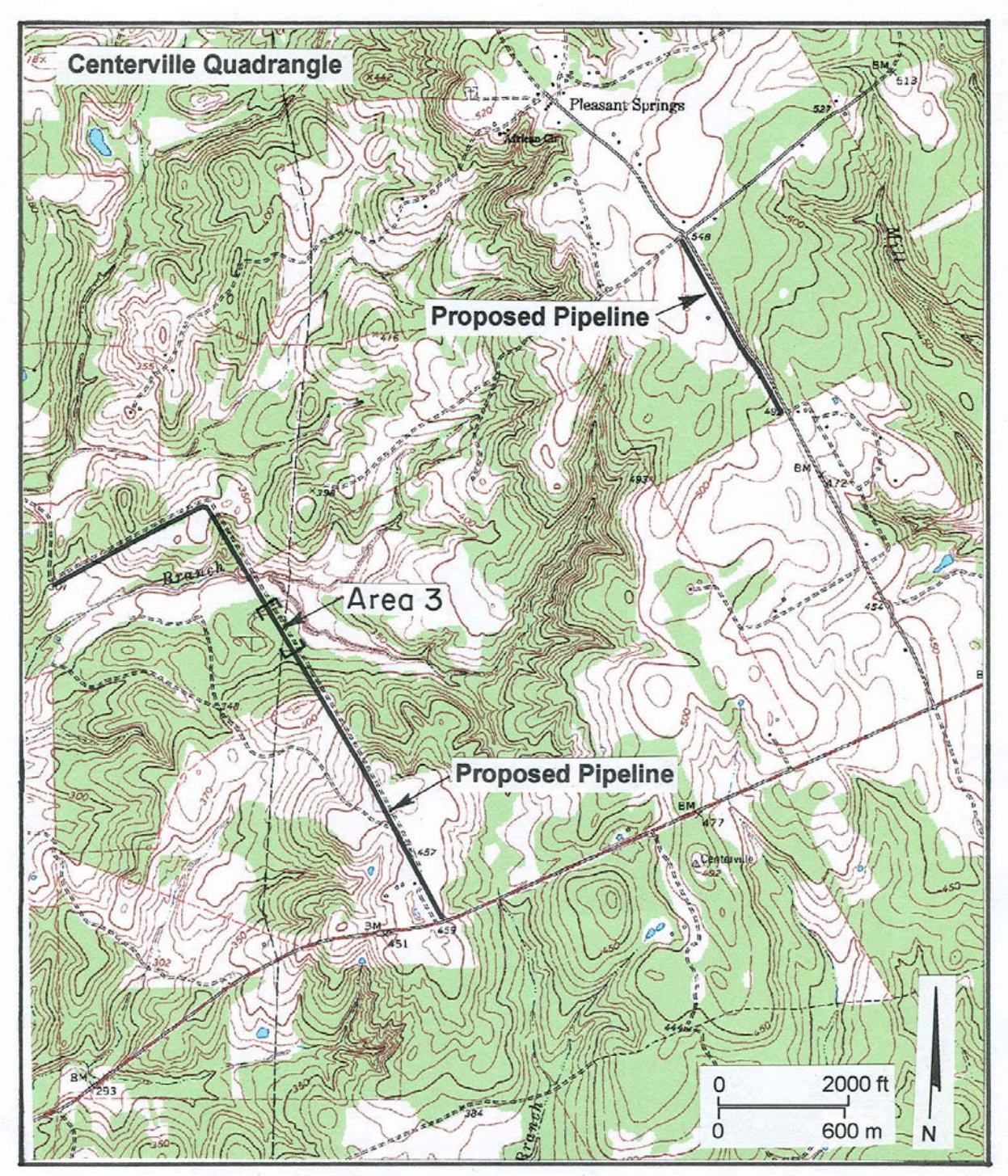

Figure 4. Project Area Map (Area 3)

PREVIOUS INVESTIGATIONS

General Studies

Three major archaeological projects have been conducted in Leon County. They are the Upper Navasota Reservoir (now Lake Limestone) (Prewitt 1974; Prewitt and Dibble 1974), Jewett Mine (Espey, Huston & Associates, Inc. 1980; Voellinger and Freeman 1980; Freeman and Voellinger 1982; Fields 1988), and Millican Reservoir (Kotter 1982). Lake Limestone was examined by the Texas Archeological Survey in 1974 under contract with the Brazos River Authority. Only areas of high site probability such as floodplains and valley margins along the Navasota River and its major tributaries were surveyed. Fifty-two prehistoric sites were recorded within the reservoir area. Of this number, 37 were found to be situated on the crests or slopes of eroded valley margins. At Lake Limestone, Prewitt and Grombacher (1974:7) found a scarcity of sites along the major tributaries. They attribute this to the possibility that desirable or needed resources were more readily available along the main stem valley than along the tributaries. Following the Lake Limestone project, work at Jewett Mine commenced in 1980 and is still in progress. The majority of sites in the county are on Jewett Mine property, and most of our current knowledge of the prehistoric and early historic sites of the area has been obtained from these studies. At Jewett Mine, Voellinger and Freeman (1980:4-15) observed that all but two of the sites are located in transitional zones. They found that the physiographically transitional zones of the major creeks of the Jewett Mine area continually provided the most attractive qualities for prehistoric populations. At Jewett Mine, the average horizontal distance to water was 131 meters, and 73 percent of the prehistoric sites are located at or within 100 meters of water. A scarcity of sites in areas of shallow soils was noted at Jewett Mine. Soil probes on the terraces and upland breaks along the lower expanses of Mine Creek, for example, repeatedly indicated less than 20 cm of soils over a clay base. In these areas, sites were absent. Beginning with the first deep sand hill upstream, however, an abundance of prehistoric sites was found (Freeman and Voellinger 1982:2-62). One suggestion for the preference of deep sandy soils is the possibility that certain plants that prefer these deep soils were desired and exploited by prehistoric populations. Freeman and Voellinger (1982:2-63) suggest that sites located on higher terraces and upland margins are smaller in horizontal extent and contain less material cultural remains than those along the major creeks. The latter should represent habitation sites with artifact assemblages reflecting the area's major occupations. Features such as hearths, storage pits, and structural remains might be found in sites along the major creeks while the smaller sites at higher elevations should contain activity specific tool assemblages. They (Freeman and Voellinger 1982:2-64) comment on the difficulty of assessing site depth and size in the project area. Most sites were found by a single flake in shovel tests. According to them, "the general lack of surface evidence indicating the presence of cultural manifestations will require testing far beyond the scope of an archaeological survey to adequately address real site dimensions." The intensive shovel testing during this survey sometimes failed to disclose a site's integrity. Many sites have no obvious stratigraphy beyond the gradual change from humic sand to sand to clayey sand.

Four studies in the county have been conducted in association with water line projects for local water supply corporations. The first was performed in 1994 by Brazos Valley Research Associates (Moore 1994). This study involved an archaeological survey of 112 miles of proposed water line in west-central Leon County for the Concord Robbins Water Supply Corporation. Eighteen prehistoric and historic sites were recorded. All of the prehistoric sites were found on topographic settings containing sandy soils in close proximity to streams. No prehistoric sites were found in modern floodplain settings. One prehistoric site (41LN391) was believed to have research potential due to the high number of artifacts recovered through shovel testing.

In 1997, Archeological and Environmental Consultants (Perttula and Nelson 1997) conducted an archaeological survey of approximately 14.5 miles of proposed water line for the Southeast WSC in eastern Leon County. Part of the areas examined by this firm overlaps with the current study. Four prehistoric sites (41LN430 - 41LN433) were found within the right-of-way. All of the sites are in sandy soils on terraces or hills overlooking streams or creeks. Only site 41LN430 was considered to have the potential to contain important information.

In 2002, Brazos Valley Research Associates conducted an archaeological survey of an 84.65-mile water line for the Concord Robbins WSC (Moore 2002a). No archaeological sites were found within the project area ROW. In general, the water line crossed terrain viewed as low probability areas for the presence of archaeological sites. Although sandy hills were present in the project area, most of the creek crossings were on slopes of hills or in low-lying areas. As part of this study 17 prehistoric sites recorded by Brazos Valley Research Associates in an earlier study (Moore 1994) were assessed. It was determined that no significant sites will be affected by the proposed water line. Also in 2002, Brazos Valley Research Associates (Moore 2002b) examined additional sections of waterline for the Concord Robbins WSC that were not part of the previous study. No new archaeological sites were found.

METHODS

The purpose of this archaeological survey was to locate any previously unrecorded archaeological sites in the proposed Southeast Texas WSC water line right-of-way. Prior to conducting the field survey, the Archeological Sites Atlas and the site records at the Texas Archeological Research Laboratory were checked for previously recorded sites and past surveys in the project area. Next, an application for an Antiquities Permit was submitted to the Texas Historical Commission, Archeology Division. The permit was signed by Royce Keeling (President of the Board of Directors for the Southeast WSC) and the Principal Investigator. The Principal Investigator visited the project area and conducted a pre-survey assessment. Three areas were identified for survey. The field survey was performed using the pedestrian survey method supported by shovel testing, shovel probing, and an examination of road cut banks as well as surface inspection of all eroded and otherwise exposed areas within the highway right-of-way. Each shovel test was recorded on a shovel test log (Appendix I) and discussed in the project notes. The excavated matrix was screened using 1/4-inch hardware cloth. In all, four shovel tests were excavated. The locations of the four shovel tests are depicted in Figure 5. No shovel testing was conducted outside the 15-foot right-of-way. Shovel probes were dug with a shovel to help confirm the presence of shallow soils in some areas in place of shovel tests. Probes were not screened, numbered, or depicted on the field maps. The two well sites and one pump station are not located near a major water source, and another pump station is located on a moderately steep slope. During the pre-survey assessment, these areas were determined to be low probability areas for the presence of significant archaeological sites, and they were not shovel tested.

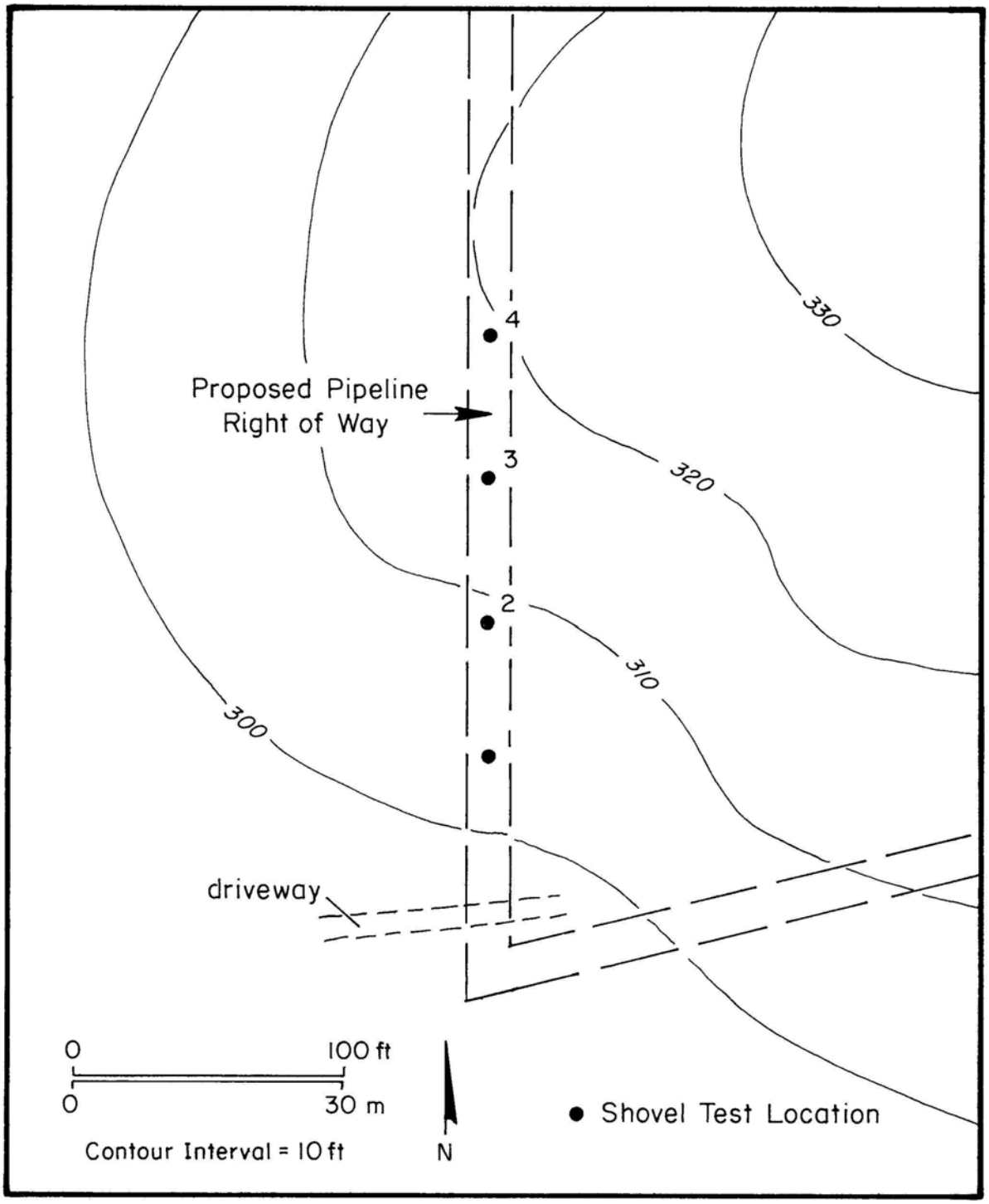

Figure 5. Shovel Tests in Area 1

RESULTS AND CONCLUSIONS

According to the Archeological Sites Atlas, there are no previously recorded sites in the current project area. Also, the area has not been examined by a professional archaeologist. The same results were found as a result of a check of the site records at the Texas Archeological Research Laboratory. It is known that significant sites exist in the area. However, there is a valid reason for the paucity of unrecorded sites in the project area. Generally, the route of the water line crosses few major creeks. Much of the project area is on slopes of hills, in low-lying areas, or flat stretches of land between streams. Some hills that appeared to be likely locations on the topographic map contained hard clay at or very near the surface as evidenced by ground exposure, shovel probes, and cut bank profiles.

Area 1

Area 1 is a 550-foot long (168 meters) segment that parallels County Road 200. In this area, the water line pipe will be eight inches in diameter. During the pre-survey assessment, this area was determined to be a medium to high probability area based on the presence of sandy soil and its location on an elevated landform overlooking Little Beaver Creek to the west. Although Area 1 occupies a gentle to steep slope, it was believed that if a site were present in the area evidence of the site would be found through shovel testing. A 100% Pedestrian Survey examined the exposed areas caused by rodents, but no displaced cultural materials were observed. Four shovel tests were excavated to a depth of one meter, also with negative results. A more level area was noted upslope to the east. It is possible that a site may be present in this area. A general view of Area 1 is depicted in Figure 6.

Area 2

Area 2 is a 1000-foot long (305 meters) segment that traverses cross-country. In this area, the water line pipe will be eight inches in diameter. During the pre-survey assessment, this area was observed from the road, but it was not visited in person. Based on the contours depicted on the topographic quadrangle and its proximity to Little Beaver Creek, it was viewed to be a high probability area for a prehistoric site. A 100% Pedestrian Survey examined the exposed areas caused by rodents and erosion, but no displaced cultural materials were observed. Four shovel probes found that this is a clay hill. A general view of Area 2 is depicted in Figure 7.

Area 3

Area 3 is an 850-foot long (259 meters) segment that parallels County Road 203. In this area, the water line pipe will be four inches in diameter. During the pre-survey assessment, this area was identified as a sandy hill overlooking Parks Branch and described as a high probability area for a prehistoric site. During the field survey, however, it was learned that Area 3 was on a clay hill. The county road cuts through this hill through reddish clay. A general view of Area 2 is depicted in Figure 8.

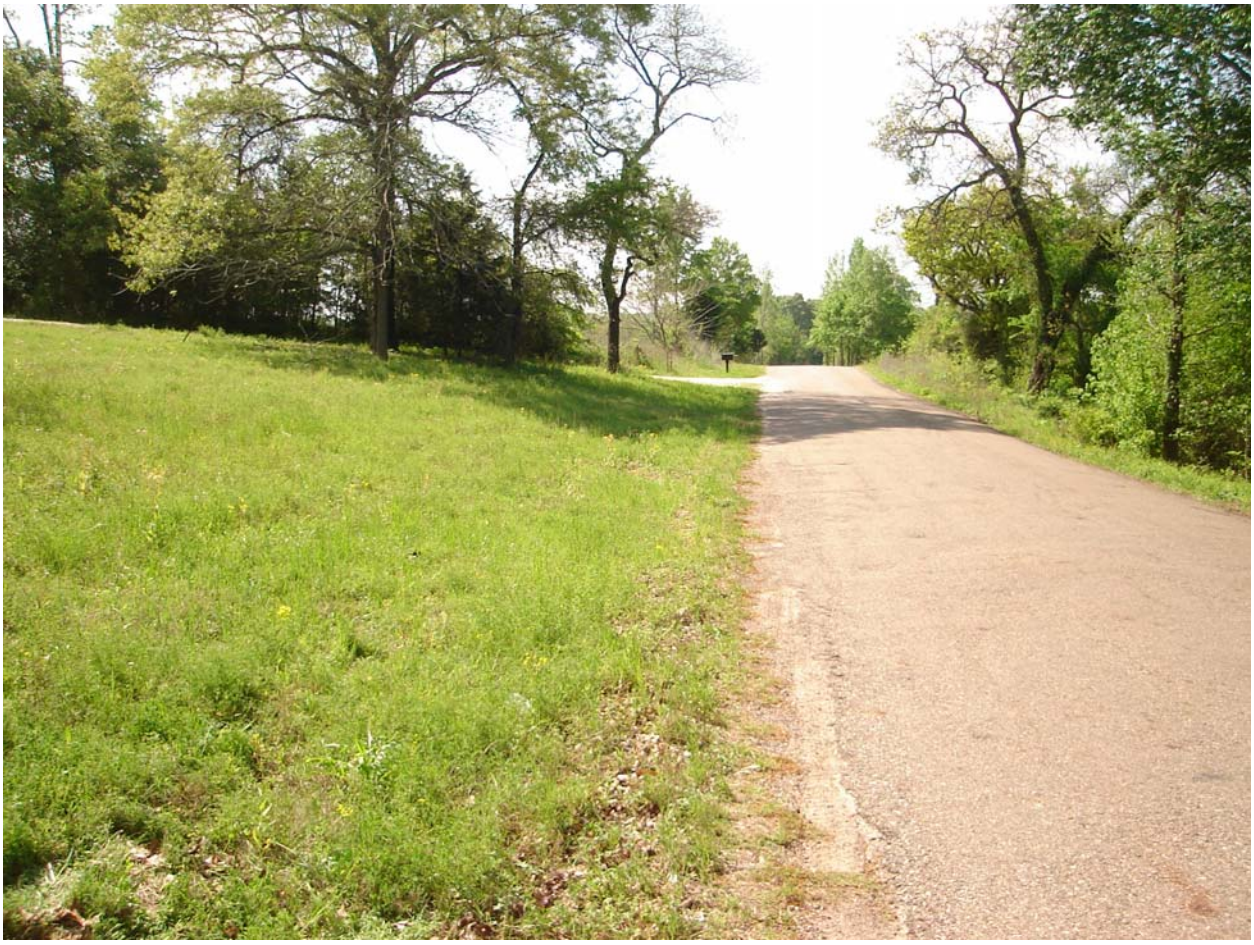

Figure 6. Area 1 (looking south)

Figure 7. Area 2 (looking west)

Figure 8. Area 3 (depicting road cut through clay bank)

RECOMMENDATIONS

The water line, wells, and pump stations as currently planned will not affect any prehistoric or historic sites. It is, therefore, recommended that the Southeast Water Supply Corporation be allowed to proceed with construction with no restrictions. Should cultural materials be encountered in areas not discussed in this report, all work should stop until the situation can be evaluated by the Texas Historical Commission. Also, if the route is altered to include previously un-surveyed areas, this should be discussed with the Texas Historical Commission as additional archaeological survey may be required.

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APPENDIX I: SHOVEL TEST LOG

Shovel Test	Depth	Area	Results
1	100 cm	1	dug through fine sandy loam and concretions – no artifacts found
2	100 cm	1	dug through fine sandy loam and concretions – no artifacts found
3	100 cm	1	dug through fine sandy loam and concretions – no artifacts found
4	100 cm	1	dug through fine sandy loam and concretions – no artifacts found